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(54) Title: NEW CRYSTALLINE FORMS OF CLOPIDOGREL HYDROBROMIDE AND METHODS OF THEIR PREPARATION

(57) Abstract: The invention concerns clopidogrel hydrobromide in the crystalline Form I characterized by an X-ray diffraction pattern with characteristic interplanar distances d of 4.01; 4.39 and 3.17 ú and which is further characterized by bands in the infrared spectra at 1743; 1421; 1237, 760 and 728 cm^{-1}. Clopidogrel hydrobromide in the crystalline Form II is characterized by an X-ray diffraction pattern with characteristic interplanar distances d of 4.52; 3.83; 3.48 ú, as well as bands in the infrared spectra at 1754; 1436; 1317 and 1223 cm^{-1}. Crystalline form III is characterized by the following peaks ascertained by X-ray diffraction at 20 positions: 7.796 °; 15.380 °; 18.389 °; 19.369 ° and 23.895 °. The method of preparation of clopidogrel hydrobromide in the crystalline Form I consist in precipitating the clopidogrel base dissolved in toluene with a concentrated solution of hydrobromic acid. The method of preparation of clopidogrel hydrobromide in the crystalline Form II consist in dissolving the clopidogrel base in an organic solvent and precipitating it with a solution of hydrobromic acid in toluene or with gaseous hydrogen bromide. Form III can be used for the preparation of pharmaceutically applicable Form II.

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